

IN THE CLAIMS

Pending claims 21-38, 40 and 41 are as follows:

1-20. Canceled.

21. (Previously Presented) A method of repairing a fractured joint adjacent a long bone, comprising:

performing a fixation surgery comprising:

placing a plurality of long bone pins of an external fixator assembly transversely into a long bone proximally of the fracture, the external fixator assembly comprising:

a support structure extending generally parallel to the long bone and perpendicular to the long bone pins, the support structure having a proximal section which releasably holds the plurality of long bone pins, the support structure having a mid-section and a distal section;

an outrigger extending generally transversely from the mid-section of the support structure, the outrigger having at least one fragment pin releasably attachable thereto; and

a plurality of distal bone pins releasably held by the distal section of the support structure;

securing the long bone pins relative to the support structure, thereby fixing the support structure relative to the long bone;

placing the plurality of distal bone pins transversely into a distal bone;

securing the distal bone pins relative to the support structure, such that the external fixator assembly fixes the distal bone relative to the long bone;

placing the fragment pin into a radial bone fragment; and

securing the fragment pin relative to the outrigger;

after an initial healing duration, performing a joint-release surgery, comprising:

removing the distal bone pins from the distal bone, thereby permitting at least a limited degree of joint flexation; and

after a secondary healing duration, performing an external fixator removal surgery, comprising:

removing the long bone pins from the long bone; and

removing the fragment pin from the healed fragment.

22. (Previously Presented) The method of claim 21, further comprising:

at the time of the joint-release surgery, removing the distal section of the support structure from the proximal section and mid-section of the support structure.

23. (Previously Presented) The method of claim 21, wherein the proximal section and mid-section of the support structure are provided by a main body, and wherein the distal section is pivotally attached to the mid-section to permit pivoting of the distal section relative to the main body, wherein the act of securing the distal bone pins relative to the support structure comprises:

securing the distal section of the support structure relative to the main body.

24. (Previously Presented) The method of claim 23, wherein the long bone is a radius and the distal bone is a metacarpal, wherein the distal section when unsecured pivots relative to the main body at least commensurate with anatomical pivoting of the metacarpal relative to the radius.

25. (Previously Presented) A method of repairing a fracture in or adjacent a long bone and at a joint, which fracture produces a bone fragment either partly or completely detached from the long bone, comprising:

performing a joint and fracture fixation surgery comprising:

securing a main body of an external fixator assembly such that it extends generally parallel to the long bone external to the patient's tissue, the external fixator assembly further comprising an outrigger which extends from the main body

generally transversely over the fracture external to the patient's tissue, and a distal body which extends distally from the main body external to the patient's tissue;

placing a fragment pin into the bone fragment, and using the outrigger to secure the fragment pin relative to the main body;

securing the distal body of the external fixator assembly relative to a bone opposite the joint from the long bone, to thereby restrict movement of the joint;

after an initial healing duration with the joint and fracture fixed relative to the long bone by the external fixator assembly, releasing the distal body, thereby permitting at least a limited degree of joint flexation, while leaving the fragment pin supported by the main body and outrigger relative to the long bone; and

after a secondary healing duration during which joint flexation occurs, removing the main body and the fragment pin from the long bone.

26. (Presently Amended) The method of claim 25, wherein the distal body of the external fixator is connected to the main body with a securable adjustment segment, the securable adjustment segment having an unsecured state allowing movement of the distal body relative to the main body and a secured state preventing movement of the distal body relative to the main body such that the external fixator secures the joint in a fixed position, and further comprising:

attaching the main body to the long bone with the securable adjustment segment in its unsecured state, and

securing the securable adjustment segment into its secured state for the initial healing duration.

27. (Previously Presented) The method of claim 25, wherein the outrigger is pivotably connected to the main body, and further comprising:

securing the outrigger at a selected angular position relative to the main body for the initial healing duration and the secondary healing duration.

28. (Previously Presented) The method of claim 27, wherein the act of securing the outrigger at a selected angular position occurs after the act of placing the fragment pin into the bone fragment.

29. (Previously Presented) The method of claim 25, wherein the act of releasing the distal body comprises removing the distal body from the main body.

30. (Previously Presented) The method of claim 25, wherein the act of securing the distal body of the external fixator assembly to a bone opposite the joint from the long bone comprises placing pins into the bone and securing the distal body to the placed pins; and wherein the act of releasing the distal body comprises removing the placed pins from the bone.

31. (Previously Presented) A method of repairing a fracture in or adjacent a long bone, which fracture produces a bone fragment either partly or completely detached from the long bone, comprising:

securing a main body of an external fixator assembly such that it extends generally parallel to the long bone external to the patient's tissue, the external fixator assembly further comprising an outrigger which extends from the main body generally transversely over the fracture external to the patient's tissue, the outrigger being adapted to carry at least one fragment pin support;

changing the number of fragment pin supports carried by the outrigger without removing the outrigger from the main body; and

placing a fragment pin into the bone fragment, and using the outrigger and the fragment pin support to secure the fragment pin relative to the main body.

32. (Previously Presented) The method of claim 31, wherein the act of changing the number of fragment pin supports carried by the outrigger comprises:

attaching a fragment pin support to the outrigger without removing the outrigger from the main body, and securing the fragment pin support in a selected location along the outrigger.

33. (Previously Presented) The method of claim 32, wherein the fragment pin support is slidably attached to the outrigger, by sliding the fragment pin support from a distal end of the outrigger and in a direction toward the main body.

34. (Previously Presented) The method of claim 32, wherein the fragment pin support is slidably attached to the outrigger, by sliding the fragment pin support from a proximal end of the outrigger and in a direction away from the main body.

35. (Previously Presented) The method of claim 31, wherein the act of changing the number of fragment pin supports carried by the outrigger comprises:

removing a fragment pin support from the outrigger without removing the outrigger from the main body.

36. (Previously Presented) The method of claim 35, wherein the fragment pin support is slidably removed from the outrigger, by sliding the fragment pin support in a direction toward the main body and off a proximal end of the outrigger.

37. (Previously Presented) The method of claim 35, wherein the fragment pin support is slidably removed from the outrigger, by sliding the fragment pin support in a direction away from the main body and off a distal end of the outrigger.

38. (Previously Presented) A method of repairing a fracture in or adjacent a long bone and at a joint, which fracture produces a bone fragment either partly or completely detached from the long bone, comprising:

securing a main body of an external fixator assembly such that it extends generally parallel to the long bone external to the patient's tissue, the external fixator assembly further comprising an outrigger which extends from the main body generally transversely over the fracture external to the patient's tissue;

changing the angle at which the outrigger extends from the main body by pivoting the outrigger about an axis generally parallel to the long bone, and securing the outrigger relative to the main body at the changed angle; and
placing a fragment pin into the bone fragment, and using the outrigger to secure the fragment pin relative to the main body.

39. Canceled.

40. (Previously Presented) The method of claim 41, wherein the bone fastener support is added to or removed from the track by longitudinal sliding.

41. (Previously Presented) A method of repairing a fracture in or adjacent a long bone, which fracture produces a bone fragment either partly or completely separated from the long bone, comprising:

securing a main body of an external fixator assembly relative to the long bone such that it extends generally parallel to a longitudinal axis of the long bone, the external fixator further comprising an outrigger connected to the main body for extending generally perpendicular to a longitudinal axis of the main body, the outrigger defining a track having a sliding recess; and

adding or removing a bone fastener support from the sliding recess of the track with the main body secured relative to the long bone and without removing the outrigger from the main body.